

Amendments to the Claims

1 (Currently Amended). A blood processing system ~~communicating with a blood separation device~~ comprising

a filter for removing leukocytes from blood,

first and second fluid pressure actuated pump stations, and

a fluid pressure actuator operating to selectively apply fluid pressure pump strokes in tandem to the first and second pump stations to convey fluid from a source to ~~a destination~~ the filter, the fluid pressure actuator including a control function to switch between a first flow mode, in which the pump strokes draw a fluid volume into the first pump station from the source and expel a fluid volume from the second pump station to the ~~destination~~ filter, and a second flow mode, in which the pump strokes draw a fluid volume into the second pump station from the source and expel a fluid volume from the first pump station to the ~~destination~~ filter, the control function operating to synchronize the pump strokes so that fluid flow from the source is essentially continuous while fluid flow to the ~~destination~~ filter is pulsatile.

2 (New). A system according to claim 1

wherein the source comprises a blood collection container.

3 (New). A system according to claim 2

wherein the blood collection container receives blood from a blood separation device.

4 (New). A system according to claim 1

wherein the first and second fluid pressure actuated pump stations apply positive and negative fluid pressure.

5 (New). A system according to claim 1

wherein the first and second fluid pressure actuated pump stations apply positive and negative pneumatic pressure.

6 (New). A system according to claim 1

wherein the filter communicates with a blood collection container located in a downstream flow direction to receive blood after passage through the filter.